

CLAIMS

1. (Currently Amended) A method for designing custom, primarily decorative stonework, comprising:

selecting at least one unit of a plurality of units, wherein each unit of the plurality of units at least corresponds to an architecture[[al]] feature, and wherein the at least one unit comprises:

a plurality of parts;

at least one parametric equation defining at least one physical dimension of the plurality of parts and at least one arrangement of the plurality of parts, wherein:

the at least one physical dimension comprises at least one measurement of the architecture feature;

the at least one physical dimension determines a relative size of at least two parts of the plurality of parts;

the at least one arrangement determines a relative position of at least two parts of the plurality of parts; and

the at least one physical dimension and the at least one arrangement determine the physical construction of the architecture feature; and

at least one control dimension comprising at least one measurement of the architecture feature, the at least one control dimension comprising an input of the at least one parametric equation;

selecting at least a primary view of the unit, wherein the primary view depicts an overall view of the at least one [[unit]]arrangement of the plurality of the parts;

selecting at least one profile of a plurality of profiles, wherein each profile of ~~[[a]]~~the plurality of profiles corresponds to at least a cross-sectional view of the at least one ~~[[unit]]~~arrangement of the plurality of the parts;

inputting the at least one control dimension ~~of a plurality of dimensions, wherein the at least one dimension corresponds to at least a physical dimension of the at least one unit~~;

parametrically calculating ~~one or more other dimensions of the unit~~, using the at least one parametric equation, the at least one physical dimension of the plurality of parts and the at least one arrangement of the plurality of parts based upon the input of ~~at least one dimension and unit size~~ the at least one control dimension, ~~and further at least determining relative sizes of the plurality of parts of the at least one unit based upon said input dimension~~; and

generating at least one scaled drawing, wherein the scaled drawing at least has ~~numbers~~ identifiers that correspond~~[[s]]~~ to at least one dimension the at least one physical dimension of the plurality of parts of the at least one unit and the at least one arrangement of the plurality of parts of the at least one unit.

2. (Original) The method of Claim 1, wherein the step of selecting the at least one unit of the plurality of units further comprises selecting from a database organized by parts, units, and profiles.

3. (Original) The method of Claim 1, wherein the step of selecting the at least one unit of the plurality of units further comprises selecting the at least one unit from a database wherein each part of the plurality of parts that comprise each unit of the plurality of units is at least referenced by a part identifier.

4. (Currently Amended) The method of Claim 1, wherein the step of generating the scaled drawing further comprises generating a scaled drawing that is at least configured to be a Computer Aided Design (CAD) drawing[[s]].

5. (Currently Amended) The method of Claim 4, wherein the step of generating at least one scaled drawing further comprises:

accessing a computer database that is at least stored in a computer memory;

retrieving a plurality of part identifiers of the plurality of parts that comprise the at least one unit;

retrieving CAD drawings for each of the plurality of part identifiers;

~~resealing~~modifying the CAD drawings for each part of the plurality of parts that comprise the at least one unit according to the at least one physical dimension of the plurality of parts and the arrangement of the plurality of parts;

rendering the CAD drawings; and

plotting or printing the CAD drawings.

6. (Currently Amended) A method for electronically custom designing primarily decorative stonework, comprising:

selecting at least one unit from a plurality of units, wherein each unit of the plurality of units at least corresponds to an architecture feature, from a computer database stored in a computer memory, wherein each unit of the plurality of units comprises:

a plurality of parts;

at least one parametric equation defining at least one physical dimension of the plurality of parts and at least one arrangement of the plurality of parts, wherein:

the at least one physical dimension comprises at least one measurement of the architecture feature;

the at least one physical dimension determines a relative size of at least two parts of the plurality of parts;

the at least one arrangement determines a relative position of at least two parts of the plurality of parts; and

the at least one physical dimension and the at least one arrangement determine the physical construction of the architecture feature; and

at least one control dimension comprising at least one measurement of the architecture feature, the at least one control dimension comprising an input of the at least one parametric equation;

wherein the plurality of units are organized such that ~~[[a]]~~the plurality of parts that comprise each unit is logically associated to each of the respective units;

selecting at least one profile of a plurality of profiles, wherein each one profile of the plurality of profiles corresponds to at least a primary cross-sectional view of the at least one ~~[[unit]]~~arrangement of the plurality of the parts;

~~entering physical dimension data of the at least one unit~~ the control dimension into a computer that is at least coupled to the computer memory, ~~wherein the physical dimension data is at least configured to be unit-specific dimensional measurements;~~

calculating the at least one physical dimension~~[[s]]~~ of ~~each of the plurality of parts comprising the at least one unit~~ and the at least one arrangement of the plurality of parts,

wherein ~~a plurality of parametric equations~~ the at least one parametric equation ~~[[are]]~~ is at least employed and wherein the ~~plurality of~~ at least one parametric equation ~~[[s]]~~ ~~[[are]]~~ is at least configured to utilize summing means and squaring means;

accessing the computer database that is at least stored in a computer memory;

retrieving a plurality of part identifiers of the plurality of parts that comprise the at least one unit;

retrieving CAD drawings for each of the plurality of part identifiers;

~~retrieving~~ modifying the CAD drawings for each part of the plurality of parts that comprise the at least one unit according to the at least one physical dimension of the plurality of parts and the arrangement of the plurality of parts;

rendering the CAD drawings; and

plotting or printing the CAD drawings.

7. (Currently Amended) A computer program product for designing custom, primarily decorative stonework, the computer program product having a medium with a computer program embodied thereon, the computer program comprising:

computer program code for selecting at least one unit of a plurality of units, wherein each unit of the plurality of units at least corresponds to an architecture ~~[[al]]~~ feature, and wherein the at least one unit of the plurality of units comprises:

a plurality of parts;

at least one parametric equation defining at least one physical dimension of the plurality of parts and at least one arrangement of the plurality of parts, wherein:

the at least one physical dimension comprises at least one measurement of the architecture feature;

the at least one physical dimension determines a relative size of at least two parts of the plurality of parts;

the at least one arrangement determines a relative position of at least two parts of the plurality of parts; and

the at least one physical dimension and the at least one arrangement determine the physical construction of the architecture feature; and

at least one control dimension comprising at least one measurement of the architecture feature, the at least one control dimension comprising an input of the at least one parametric equation;

computer program code for selecting at least a primary view, wherein the primary view depicts an overall view of the at least one [[unit]]arrangement of the plurality of the parts;

computer program code for selecting at least one profile of a plurality of profiles, wherein each profile of the plurality of profiles corresponds to at least a primary cross-sectional view of the at least one [[unit]]arrangement of the plurality of the parts;

computer program code for inputting the at least one control dimension of a plurality of dimensions, wherein the at least one dimension is at least a physical dimension of the at least one unit;

computer program code for parametrically calculating ~~one or more other dimensions of the unit,~~ using the at least one parametric equation, the at least one physical dimension of the plurality of parts and the at least one arrangement of the plurality of parts based upon the input of at the least one dimension the at least one control dimension, and further at least determining relative sizes of the plurality of parts of the at least one unit based upon said input dimension;
and

computer program code for generating at least one scaled drawing, wherein the scaled drawing at least has identifiers that correspond to the at least one physical dimension of the plurality of parts of the at least one unit and the at least one arrangement of the plurality of parts of the at least one unit.

8. (Original) The computer program product of Claim 7, wherein the computer program code for selecting the at least one unit of the plurality of units further comprises computer program code for selecting from a database organized by part, units, and profiles.

9. (Original) The computer program product of Claim 7, wherein the computer program code for selecting the at least one unit of the plurality of units further comprises computer program code for selecting the at least one unit from a database wherein each part of the plurality of parts that comprise each unit of the plurality of units is at least referenced by a part identifier.

10. (Original) The computer program product of Claim 7, wherein the computer program code for generating the scaled drawing further comprises computer program code for generating a scaled drawing that is at least configured to be a CAD drawing.

11. (Currently Amended) The computer program product of Claim 10, wherein the computer program code for generating at least one scaled drawing further comprises:

computer program code for accessing a computer database that is at least stored in a computer memory;

computer program code for retrieving a plurality of part identifiers of the plurality of parts that comprise the at least one unit;

computer program code for retrieving CAD drawings for each of the plurality of part identifiers;

computer program code for ~~rescaling~~ modifying the CAD drawings for each part of the plurality of parts that comprise the at least one unit according to the at least one physical dimension of the plurality of parts and the arrangement of the plurality of parts;

computer program code for rendering the CAD drawings; and

computer program code for plotting or printing the CAD drawings.

12. (Currently Amended) A computer program product for electronically custom designing primarily decorative stonework, the computer program, product having a medium with a computer program embodied thereon, the computer program comprising:

computer program code for selecting at least one unit from a plurality of units, wherein each unit of the plurality of units at least corresponds to an architecture feature, from a computer database stored in a computer memory, wherein each unit of the plurality of units comprises:

a plurality of parts;

at least one parametric equation defining at least one physical dimension of the plurality of parts and at least one arrangement of the plurality of parts, wherein:

the at least one physical dimension comprises at least one measurement of the architecture feature;

the at least one physical dimension determines a relative size of at least two parts of the plurality of parts;

the at least one arrangement determines a relative position of at least two parts of the plurality of parts; and

the at least one physical dimension and the at least one arrangement determine the physical construction of the architecture feature; and

at least one control dimension comprising at least one measurement of the architecture feature, the at least one control dimension comprising an input of the at least one parametric equation;

wherein the plurality of units are organized such that ~~[[a]]~~the plurality of parts that comprise each unit is logically associated to each of the respective units;

computer program code for selecting at least one profile of a plurality of profiles, wherein each profile of a plurality of profiles corresponds to at least a primary cross-sectional view of the at least one ~~[[unit]]~~arrangement of the plurality of the parts;

computer program code for entering ~~physical dimension data of the at least one unit~~ the control dimension into a computer that is at least coupled to the computer memory, ~~wherein the physical dimension data is at least configured to be unit-specific dimensional measurements;~~

computer program code for calculating the at least one physical dimension~~[[s]]~~ of each of the ~~plurality of parts comprising the at least one unit~~ and the arrangement of the plurality of parts, wherein ~~a plurality of parametric equations~~ the at least one parametric equation ~~[[are]]~~ is at least employed and wherein the ~~plurality of~~ at least one parametric equation~~[[s]]~~ ~~[[are]]~~ is at least configured to utilize summing means and squaring means;

computer program code for accessing the computer database that is at least stored in a computer memory;

computer program code for retrieving a plurality of part identifiers of the plurality of parts that comprise the at least one unit;

computer program code for retrieving CAD drawings for each of the plurality of part identifiers;

computer program code for ~~rescaling~~ modifying the CAD drawings for each part of the plurality of parts that comprise the at least one unit according to the at least one physical dimension of the plurality of parts and the arrangement of the plurality of parts;

computer program code for rendering the CAD drawings; and

computer program code for plotting or printing the CAD drawings.

13. (Currently Amended) A processor for designing custom, primarily decorative stonework, the processor including a computer program comprising:

computer program code for selecting at least one unit of a plurality of units, wherein each unit of the plurality of units at least corresponds to an architecture[[al]] feature, and wherein each unit of the plurality of units comprises:

a plurality of parts;

at least one parametric equation defining at least one physical dimension of the plurality of parts and at least one arrangement of the plurality of parts, wherein:

the at least one physical dimension comprises at least one measurement of the architecture feature;

the at least one physical dimension determines a relative size of at least two parts of the plurality of parts;

the at least one arrangement determines a relative position of at least two parts of the plurality of parts; and

the at least one physical dimension and the at least one arrangement
determine the physical construction of the architecture feature; and

at least one control dimension comprising at least one measurement of the
architecture feature, the at least one control dimension comprising an input of the at least
one parametric equation;

computer program code for selecting at least a primary view, wherein the primary view
at least depicts an overall view of the at least one [[unit]]arrangement of the plurality of the
parts;

computer program code for selecting at least one profile of a plurality of profiles,
wherein each profile of [[a]]the plurality of profiles corresponds to at least a primary cross-
sectional view of the at least one [[unit]]arrangement of the plurality of the parts;

computer program code for inputting the at least one control dimension of a plurality of
dimensions, wherein the at least one dimension is at least a physical dimension of the at least
one unit;

computer program code for parametrically calculating ~~at least one or more other~~
~~dimensions of the unit,~~ using the at least one parametric equation, the at least one physical
dimension of the plurality of parts and the at least one arrangement of the plurality of parts
based upon the input of at least one dimension corresponding to unit size the at least one control
dimension, and further at least determining relative sizes of the plurality of parts of the at least
one unit; and

computer program code for generating at least one scaled drawing, wherein the scaled
drawing at least has identifiers that correspond to the at least one physical dimension of the

plurality of parts of the at least one unit and the at least one arrangement of the plurality of parts of the at least one unit.

14. (Original) The computer program code of Claim 13, wherein the computer program code for selecting the at least one unit of the plurality of units further comprises computer program code for selecting from a database organized by part, units, and profiles.

15. (Original) The computer program code of Claim 13, wherein the computer program code for selecting the at least one unit of the plurality of units further comprises computer program code for selecting the at least one unit from a database wherein each part of the plurality of parts that comprise the at least one unit of the plurality of unit is at least referenced by a part identifier.

16. (Original) The computer program code of Claim 13, wherein the computer program code for generating the scaled drawing further comprises computer program code for generating a scaled drawing that is at least configured to be a CAD drawing.

17. (Currently Amended) The computer program code of Claim 16, wherein the computer program code for generating at least one scaled drawing further comprises:

computer program code for accessing a computer database that is at least stored in a computer memory;

computer program code for retrieving a plurality of part identifiers of the plurality of parts that comprise the at least one unit;

computer program code for retrieving CAD drawings for each of the plurality of part identifiers;

computer program code for ~~rescaling~~ modifying the CAD drawings for each part of the plurality of parts that comprise the at least one unit according to the at least one physical dimension of the plurality of parts and the arrangement of the plurality of parts;

computer program code for rendering the CAD drawings; and

computer program code for plotting or printing the CAD drawings.

18. (Currently Amended) A processor for electronically custom designing primarily decorative stonework, the processor including a computer program comprising:

computer program code for selecting at least one unit from a plurality of units, wherein each unit of the plurality of units at least corresponds to an architecture feature, from a computer database stored in a computer memory, wherein each unit of the plurality of units comprises:

a plurality of parts;

at least one parametric equation defining at least one physical dimension of the plurality of parts and at least one arrangement of the plurality of parts, wherein:

the at least one physical dimension comprises at least one measurement of the architecture feature;

the at least one physical dimension determines a relative size of at least two parts of the plurality of parts;

the at least one arrangement determines a relative position of at least two parts of the plurality of parts; and

the at least one physical dimension and the at least one arrangement determine the physical construction of the architecture feature; and

at least one control dimension comprising at least one measurement of the architecture feature, the at least one control dimension comprising an input of the at least one parametric equation;

wherein the plurality of units are organized such that ~~[[a]]~~the plurality of parts that comprise each unit is logically associated to each of the respective units;

computer program code for selecting at least one profile of the plurality of profiles, wherein each profile of a plurality of profiles corresponds to at least a primary cross-sectional view of the at least one ~~[[unit]]~~arrangement of the plurality of the parts;

computer program code for entering ~~physical dimension data of the at least one unit~~ the control dimension into the computer that is at least coupled to the computer memory, ~~wherein the physical dimension data is at least configured to be unit specific dimensional measurements;~~

computer program code for calculating the at least one physical dimension~~[[s]]~~ of each ~~of the plurality of parts comprising the at least one unit and the at least one arrangement of the plurality of parts,~~ wherein ~~a plurality of parametric equations~~ the at least one parametric equation ~~[[are]]~~is at least employed and wherein the ~~plurality of~~ at least one parametric equation~~[[s]]~~ ~~[[are]]~~is at least configured to utilize summing means and squaring means;

computer program code for accessing the computer database that is at least stored in a computer memory;

computer program code for retrieving a plurality of part identifiers of the plurality of parts that comprise the at least one unit;

computer program code for retrieving CAD drawings for each of the plurality of part identifiers;

computer program code for ~~re-sealing~~ modifying the CAD drawings for each part of the plurality of parts that comprise the at least one unit according to the at least one physical dimension of the plurality of parts and the arrangement of the plurality of parts;

computer program code for rendering the CAD drawings; and

computer program code for plotting or printing the CAD drawings.

19. (Currently Amended) An apparatus for custom designing primarily decorative stonework, comprising:

a unit selector, wherein the unit selector is at least configured to select at least one unit of a plurality of units, and wherein each unit of the plurality of units at least corresponds to a primarily decorative architecture_{[[al]]} feature, and wherein the at least one unit of the plurality of units comprises:

a plurality of parts;

at least one parametric equation defining at least one physical dimension of the plurality of parts and at least one arrangement of the plurality of parts, wherein:

the at least one physical dimension comprises at least one measurement of the architecture feature;

the at least one physical dimension determines a relative size of at least two parts of the plurality of parts;

the at least one arrangement determines a relative position of at least two parts of the plurality of parts; and

the at least one physical dimension and the at least one arrangement determine the physical construction of the architecture feature; and

at least one control dimension comprising at least one measurement of the architecture feature, the at least one control dimension comprising an input of the at least one parametric equation;

a primary view selector, wherein the primary view selector is at least configured to select at least a primary view, and wherein the primary view at least depicts an overall view of the at least one ~~[[unit]]~~arrangement of the plurality of the parts;

a profile selector, wherein the profile selector is at least configured to select at least one profile of a plurality of profiles, and wherein the one profile of a plurality of profiles corresponds to at least a primary cross-sectional view of the at least one ~~[[unit]]~~arrangement of the plurality of the parts;

a data input channel, wherein the data input channel is at least configured to receive the at least one ~~control dimension of a plurality of dimensions, and wherein the at least one dimension is at least a physical dimension of the at least one unit;~~

a calculation unit, wherein the calculation unit is at least configured to parametrically ~~calculate one or more other dimensions of the unit, using the at least one parametric equation, the at least one physical dimension of the plurality of parts and the at least one arrangement of the plurality of parts based upon the input at least one dimension corresponding to the unit size of the at least one control dimension, and further at least determining relative sizes of the plurality of parts of the at least one unit based upon the input dimension;~~ and

a drawing generator, wherein the drawing generator is at least configured to generate at least one scaled drawing, and wherein the scaled drawing at least has identifiers that correspond~~[[s]]~~ to the at least one physical dimension of the plurality of parts of the at least one unit and the at least one arrangement of the plurality of parts of the at least one unit.

20. (Original) The apparatus of Claim 19, wherein the unit selector further comprises computer program code for selecting from a database organized by parts, units, and profiles.

21. (Original) The apparatus of Claim 19, wherein the unit selector further comprises computer program code for selecting the at least one unit from a database wherein each part of the plurality of parts that comprise each unit of the plurality of units is at least referenced by a part identifier.

22. (Original) The apparatus of Claim 21, wherein the drawing generator further comprises computer program code for generating scaled drawings that are at least configured to be CAD drawings.

23. (Currently Amended) The apparatus of Claim 22, wherein the drawing generator further comprises:

computer program code for accessing a computer database that is at least stored in a computer memory;

computer program code for retrieving a plurality of part identifiers of the plurality of parts that comprise the at least one unit;

computer program code for retrieving CAD drawings for each of the plurality of part identifiers;

computer program code for ~~rescaling~~modifying the CAD drawings for each part of the plurality of parts that comprise the at least one unit according to the at least one physical dimension of the plurality of parts and the arrangement of the plurality of parts;

computer program code for rendering the CAD drawings; and

computer program code for plotting or printing the CAD drawings.

24. (Currently Amended) An apparatus for electronically custom designing primarily decorative stonework, comprising:

a unit selector, wherein the unit selector is at least configured to select at least one unit from a plurality of units, wherein each unit of the plurality of units at least corresponds to an architecture feature, from a computer database stored in a computer memory, wherein each unit of the plurality of units comprises:

a plurality of parts;

at least one parametric equation defining at least one physical dimension of the plurality of parts and at least one arrangement of the plurality of parts, wherein:

the at least one physical dimension comprises at least one measurement of the architecture feature;

the at least one physical dimension determines a relative size of at least two parts of the plurality of parts;

the at least one arrangement determines a relative position of at least two parts of the plurality of parts; and

the at least one physical dimension and the at least one arrangement determine the physical construction of the architecture feature; and

at least one control dimension comprising at least one measurement of the architecture feature, the at least one control dimension comprising an input of the at least one parametric equation;

and wherein the plurality of units are organized such that ~~[[a]]~~the plurality of parts that comprise each unit is logically associated to each of the respective units;

a profile selector, wherein the profile selector is at least configured to select at least one profile of a plurality of profiles, and wherein each profile of a plurality of profiles corresponds to at least a primary cross-sectional view of the at least one ~~[[unit]]~~arrangement of the plurality of the parts;

an data input channel, wherein the data input channel is at least configured to receive the at least one control physical dimension data of the at least one unit into the computer that is at least coupled to the computer memory, and wherein ~~the physical dimension data~~ at least one control dimension is at least configured to be unit-specific dimensional measurements;

a calculation unit, wherein the calculation unit is at least configured to calculate, using the at least one parametric equation, the at least one the physical dimension~~[[s]]~~ of ~~[[each]]~~the plurality of

parts comprising the at least one unit, ~~and wherein a plurality of parametric equations are at least employed~~ and wherein the ~~plurality of~~ at least one parametric equation[[s]] [[are]]is at least configured to utilize summing means and squaring means;

a pointer, wherein the pointer is at least configured to access the computer database that is at least stored in a computer memory;

a data retriever, wherein the data retriever is at least configured to retrieve a plurality of part identifiers of the plurality of parts that comprise the at least one unit;

a drawing retriever, wherein the drawing retriever is at least configured to retrieve CAD drawings for each of the plurality of part identifiers; and

a CAD unit, wherein the CAD unit is at least configured to:

~~reseal~~modify the CAD drawings for each part of the plurality of parts that comprise the at least one unit according to the at least one physical dimension of the plurality of parts and the arrangement of the plurality of parts;

render the CAD drawings; and

plot or print the CAD drawings.

25. (New) The method of Claim 1, further comprising showing a correlation on the primary view between:

the at least one control dimension and the at least one physical dimension; and

the at least one control dimension and the at least one arrangement.

27. (New) The computer program product of Claim 7, further comprising computer code for showing a correlation on the primary view between:

the at least one control dimension and at least one of the at least one physical dimension; and
the at least one control dimension the at least one arrangement.

28. (New) The processor of Claim 13, the computer program further comprising
computer program code for showing a correlation on the primary view between:

the at least one control dimension and at least one of the at least one physical dimension; and
the at least one control dimension the at least one arrangement.

29. (New) The apparatus of Claim 19, further comprising a unit picture, wherein the
unit picture is at least configured to show a correlation on the primary view between:

the at least one control dimension and at least one of the at least one physical dimension; and
the at least one control dimension the at least one arrangement.